

Remarks

Claims 22-41 are currently pending. Claims 27, 29, 30 and 32 have been amended. Claim 28 has been cancelled. No new matter has been added. Applicants indicate their appreciation for the indication of allowable subject matter for claims 22-26 and 35-41. Applicants assert that all claims are in condition for allowance as set forth more fully below.

Double Patenting

Claim 27 has been rejected under the doctrine of double patenting over claim 1 and 9 of US Patent 6,351, 248. A terminal disclaimer is filed herewith. Accordingly, the double patenting rejection may be withdrawn.

112 Rejections

Claims 22-41 stand rejected under 35 USC §112 as being indefinite for failure to point out and distinctly claim the subject matter which the applicant regards as the invention.

Claims 22, 27 and 35

The Office Action rejects Claims 22, 27 and 35 under 35 USC §112 as containing an undefined phrase “donor” as used in “donor antenna”. The Applicant respectfully traverses the rejection by pointing out that the term “donor antenna” is clearly and distinctly described and defined in the amended specification filed in Applicant’s Preliminary Amendment filed on February 25, 2004. A donor antenna is described in page 2, paragraph 6 which recites:

“The donor antenna receives downlink signals from a macrocell site... and channels the downlink signals to the signal-processing device. “...the donor antenna re-transmits the uplink signals to the macrocell after the amplifier or the repeater has processed the uplink signals. The donor antenna is typically a directional antenna that has a clear line of sight to the donor sell site.”

Applicants assert that the term “donor” has proper definitional support in the specification as cited. Dependent claims 23-26, 28-34 and 36-41 depend from allowable

claims 22, 27 and 35 and are also allowable for the same reasons. As such, the §112 rejection should be withdrawn.

Claim 32

The Office Action rejects Claim 32 under 35 USC §112 as containing the phrase “the fabric” which has no antecedent basis. Claim 32 has been amended to refer to amended claim 30 which recites “a fabric”. The Applicant respectfully asserts that the element “fabric” in claim 32 now has proper antecedent basis. As such, the §112 rejection should now be withdrawn.

102 Rejection

Claims 27 stands rejected under 35 USC §102(b) as being anticipated by Redheffer (US Pat 2,624,843). Applicant respectfully traverses this rejection.

The Office Action rejects independent method claim 27 by stating that Redheffer teaches all of its elements. The Office Action equates the protective dielectric housing taught in Redheffer (designed for impedance matching), to the reflecting member of claim 27 (dampening the side lobe looping effect and increase the directionality of the antenna). Amended claim 27 recites that the reflecting member comprises a conductive metallic mesh frame. This additional recitation of amended claim 27 is not taught or disclosed by Redheffer, and the Office Action concedes this point when rejecting previously pending claim 28.

Accordingly, claim 27 includes recitations not disclosed by Redheffer and is allowable over Redheffer for at least these reasons. Dependent claims 29-34 depend from allowable claim 27 and are also allowable over Redheffer for at least the same reasons.

103 Rejections

Previously pending claim 28 and pending claim 29 stand rejected under 35 USC §103(a) as being unpatentable over Redheffer in view of Berube (US Patent 6,673,068). Previously pending claim 28 and claims 30-31 stand rejected under 35 USC §103(a) as being unpatentable over Redheffer in view of Reynolds (US Pat 5,885,906). Claim 27

has been amended to include the subject matter of claim 28. To the extent the previous rejections of claim 28 would not apply to claim 27, Applicants respectfully traverse these rejections.

In relation to the rejection based on Redheffer in view of Berube and alternatively in view of Reynolds, amended claim 27 recites a method comprising surrounding an antenna member of the donor antenna with a reflecting member along a longitudinal axis of the antenna member wherein the reflecting member comprises a metallic mesh frame.

Redheffer teaches that the goal of using the protective housing is to create an antenna component with a reflection coefficient that effectively cancels the reflection coefficient of the antenna (Col. 1, l. 57-Col. 2 l. 3; Col. 2, l. 58-60; Col. 4, l. 25-28) and obtain optimum performance of the antenna (Col.. 1, l. 15-19; Col. 1. 34-37) in all directions by adjusting the circumference of the housing. Redheffer teaches that the coefficient of reflectivity varies with the radius of the housing which can be adjusted by trial and error until the single optimum radius (Col. 4, l. 1-4) and thickness (Col. 4, l. 15-20) of the housing is determined. Redheffer further teaches that the material used in the housing is a dielectric. (Col. 3, l. 45-48). Redheffer does not disclose how the material could be a metallic mesh, as opposed to a dielectric, and still have the proper coefficient of reflection. Thus, adding a metallic mesh to Redheffer would alter the intended purpose of Redheffer which relies on the reflector being a dielectric. Therefore, there can be no motivation to combine Redheffer with another reference in order to include a metallic mesh. Therefore, the combination of Redheffer with either Berube or Reynolds fails for lack of proper motivation to combine.

In addition to the combination failing as discussed above, the combination with Berube also fails because it is evident that although Berube discloses a metal mesh reflector that extends longitudinally the length of the antenna, it does not surround the antenna.

The reflector in Berube is arcuate in shape and only covers an arc angle between 90° and 180° around the longitudinal axis of the antenna. (Col. 6, l 36-37). The reflector is intended to reflect and magnify the antenna power radially away from the reflector over the entire length of the antenna in one general direction. Berube does not teach a

reflector with a 360° arc angle. To the contrary, Berube teaches away in that with an arc angle greater than 180°, the efficiency of the antenna arrangement decreases significantly (Col. 6, l. 48-51). Thus, Berube does not disclose, and instead teaches away from the reflector surrounding the antenna such that combining the metallic mesh of Berube with Redheffer would not result in the antenna being surrounded by the metallic mesh.

Therefore, the combination fails to disclose all of the elements of claim 27.

In addition to the combination failing as discussed above due to Redheffer requiring a dielectric housing, the combination with Reynolds also fails because it is evident that although Reynolds discloses a metal mesh reflector, it does not surround an antenna but instead, is the antenna.

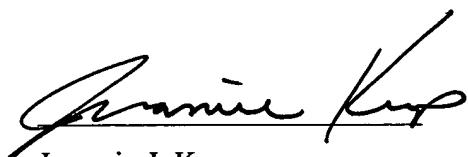
The metallic mesh in Reynolds is a Kevlar® netting coated in a metallic alloy. (Col. 3, l. 49-54). The mesh is strung across supporting ribs and relies upon the ribs to maintain its shape (Fig. 2; Col. 4, l. 15-25; Col 4, l. 28-33). The mesh can also serve as a reflective covering. (Col. 5, l 66-Col. 6, l. 5). The metallic mesh is disclosed as being the reflector portion forming an integral part of a dish antenna rather than surrounding a separate antenna. Furthermore, the metallic mesh is disclosed as surrounding a space vehicle to reflect away energy as opposed to surrounding an antenna. Thus, Reynolds fails to disclose using the metallic mesh to surround an antenna but uses the metallic mesh as the antenna such that the combination with Redheffer fails to disclose the metallic mesh surrounding the antenna for this additional reason. Therefore, claim 27 and its dependent claims are allowable over the combination of references for this additional reason.

Conclusion

Applicants assert that the application including claims 22-27 and 29-41 is in condition for allowance. Claim 28 has been cancelled. Applicants request reconsideration in view of the amendment and remarks above and further request that a Notice of Allowability be provided. Should the Examiner have any questions, please contact the undersigned.

No fees are believed due. However, please charge any additional fees or credit any overpayment to Deposit Account No. 50-3025.

Respectfully submitted,



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